

ABSTRACT

A metal halide lamp with red emission equivalent to or exceeding that of a blackbody source of equal correlated color temperature. A metal halide chemistry containing CaI_2 plus a complexing metal halide of AlI_3 or GaI_3 is used to substantially increase red emission of a metal halide lamp. The inclusion of TlI in the fill chemistry is also important in influencing Ca to preferentially emit atomic and molecular red radiation of the visible spectrum while suppressing blue radiation. Optionally, a shroud of neodymium doped glass is also used to significantly filter transmission of yellow light, thereby further improving the proportion of red emission while maintaining a sufficiently white color and good general color rendering.